

REMARKS

Claims 1-5, and 7-12 were rejected as anticipated by Nazem. Claims 6 and 13-15 were rejected as unpatentable over Nazem in view of Rune. Applicant requests reconsideration.

Independent claims 1, 9, and 12 were amended to clearly recite that the process steps are all executed at a proximal IPA. That is, according to claim 3, a proximal web cache. The examination recitation of the history of computer caches was elegant, but unnecessary.

The basis for allowance is and remains common to independent claims 1, 9, and 12 that include, among others, the unobvious limitation of "cross referencing at the proximal IPA in the forwarding table the stored destination URL identifier with the destination IPA".

The invention is directed to forming a proximal web cache at a proximal IPA. The proximal web cache uses cross-reference data as both a forwarding table and a routing table that includes both IPA and URL information. The cross-referenced URL-to-IPA forwarding table assists the proximal host at the proximal IPA to locate web content data that can be stored in a network of web caches. The benefits of associating the URL with IPA enables a proximal web cache to have a self-contained content-based forwarding table at the proximal IPA for expedited retrieval of web content data.

1 The present invention is new as a forwarding and routing table
2 that associates URLs to distal IPAs for accessing web content data
3 from the nearest minimum hop URL data that is stored in a web
4 cache. The present invention does not merely route IPAs from a
5 routing table for forwarding discrete packets, but rather forwards
6 and routes the URL requests to near and far web caches and servers.
7 Hence, the present invention is characterized by associating URL to
8 distal IPA in a forwarding-routing table in a proximal web cache
9 using URL requests that are for retrieving web content data from a
10 distal but minimum hop web cache or a distal URL web server
11 identified by both the IPA and URL. As such, and using the present
12 invention, a web content data request can be sent, through table
13 association, to a minimum hop web cache for fast access, rather
14 than to a far remote distal web server. By using the invention, a
15 browser directly communicates with a proximal web cache to access
16 web content data without a DNS request.

17
18 The examination rejections upon Nezem is without merit. Nazem
19 (col. 3, lines 1-5), describes the well-understood prior art by
20 which a web browser normally accesses web content data offered by a
21 web server using the Domain Name Service (DNS) to cross-reference a
22 web server name, contained within the URL, to a destination IPA. It
23 is kindly requested that the examination take note that in Nazem
24 the DNS is ITEM 108, the browser is ITEM 102, the distal servers
25 are replicated ITEMS 104, and that there is no WEB cache at all in
26 the Nezem system.

27
28 ///

1 Nezem is directed to the production of on-demand web content
2 data. Nezem's system, comprising ITEMS 112, 114 and 116 operating
3 in combination with a browser 102, DNS 108, and web servers 104
4 generates web content data from data sources and user templates.
5 Nezem has nothing to do with web caching. There is no reference in
6 Nezem as to caching or storing the generated or produced web
7 content data. Nezem is IRRELEVANT art.

8
9 The DNS service cross-references the web server names,
10 previously extracted from the distal URL, to the web server IPA so
11 that communication between the web browser and web server can be
12 established and the web content data can be transmitted directly
13 from the remote distal server to the proximal Browser. The DNS
14 service maintains cross-references from a web server name, not URLs
15 as the examination presupposes, to a list of destination IPAs.

16
17 Nezem's use of the DNS does not cross-reference distal URLs or
18 distal URL prefixes to a destination IPA. By contradistinction, the
19 browser extracts the web server HOST NAME from the URL,
20 communicates the HOST NAME to DNS, and then the DNS translates HOST
21 NAME to a host IPA, and communicates the host IPA back to the
22 browser. In web parlance, a browser, a web cache, a web server, and
23 a DNS are distinct processes. Yet, the examination seems to equate
24 all these functions with the claimed invention, as if the claimed
25 web cache processes are equated to the entire web complex.

26
27 Nazem (col. 3, lines 10-15) describes the modified operation
28 of a DNS name server such that the web server IPA returned to the

1 web browser is the same when more than one IPA is associated to a
2 web server name. There exist a plurality of methods for selecting a
3 destination IPA from the destination IPA list. Nazem (col. 3, lines
4 10-15), describes a desired deterministic method using the
5 requesting web browser IPA. The DNS service does not maintain
6 cross-references from a URL or prefixed portion of a URL to a list
7 of destination IPAs, and therefore does not teach nor suggest a
8 cross-referenced URL-to-IPA forwarding table, and therefore,
9 neither does Nazem. Nazem (col. 2, 52-67, col. 3, 1-15) describes
10 the operation of prior art on how a web browser determines how to
11 communicate with a web server through DNS requests. Nazem is
12 irrelevant to the present invention that uses a forwarding-routing
13 table at a proximal IPA web cache that associates URL and IPA for
14 intermediate web cache access.

15
16 The examination incorrectly cites Nazem (Col 3 line 1) to
17 indicate that there is a cross-referencing, but as discussed, this
18 is a DNS request which starts by sending the web server HOST NAME
19 extracted from the URL and ends with the DNS service returning an
20 IPA to the browser. The proximal IPA forwarding table stores cross-
21 references including a distal URL and a destination IPA prior to
22 the source sending a source URL identifier. Nazem does just the
23 opposite, by sending a HOST name and receiving an IPA from the DNS.
24 Storing the cross-reference between a distal URL or URL prefix and
25 a destination IPA, as in the present invention, is a separate
26 process independent of DNS, which separate process is not disclosed
27 nor suggested in Nazem.

1 The present inventions of claim 1, 9, and 12 are characterized
2 as cross-referencing, as with a forwarding-routing table in a
3 proximal web cache, at a proximal IPA, for associating URL requests
4 to distal IPAs for enabling access to near minimum-hop web caches.
5 Nazem does not provide for minimum hop web cache access nor does
6 Nazem use a forwarding-routing table that associates URLs and IPAs,
7 but rather Nazem uses conventional DNS services for associating
8 host names and IPAs. Nazem teaches away from the present invention.
9

10 When viewing Nezem's drawings, it becomes clear that the
11 functions upon which the rejections are based flow from functions
12 of a plurality of web processors, including a browser, DNS
13 processor, as well as web servers having unique functions. This is
14 an apparent application of forbidden hindsight reconstruction. It
15 is not determinative that a DNS cross-references host names to
16 IPAs, nor determinative that cache or memory is well known, but
17 rather the invention must be viewed as a whole respecting the prior
18 art. In this regard, the independent claims have been amended so
19 that each functional process step explicitly occurs at a single
20 proximal IPA, that is, at a proximal web cache. As such, it becomes
21 clear that the claimed process functions occur at this sole
22 proximal IPA location, and are not distributed among disjointed web
23 components, such as a browser, DNS, or web servers, as in Nezem,
24 performing inherently different processes.
25

26 In connection with the independent claims, Nezem specifically
27 and particularly teaches a SYSTEM of web components including the
28 browser, DNS and web servers interconnected across the internet,

1 whereas, the present invention performs the claimed processes all
2 at THE PROXIMAL IPA. A cross-referencing proximal web cache AT THE
3 PROXIMAL IPA performing the claimed functions is not remotely
4 suggested by Nezem. In connection with storing at a proximal IPA
5 the forwarding table, Nezem teaches IP addresses stored in a name
6 server. The examination equates the DNS server with the present
7 invention, but a DNS server does not include a forwarding table
8 that translate a URL to a distal IPA, but does include a
9 translation from host name to the distal IPA.

10
11 In connection with claim 3, a DNS has never been used to store
12 web content data, yet claim 3 calls out that the web content data
13 is received at the proximal IPA as a proximal web cache. The
14 examination equates DNS with a host name to an IPA forwarding table
15 with the claimed proximal web cache cross-referencing URLs to
16 distal IPAs. DNS does not receive, as the examination incorrectly
17 suggests, at the proximal IPA, a URL, but rather receives HOST
18 NAMES extracted by a browser and then cross-references the HOST
19 NAMES to a web IPA storing the web content data. A DNS is simply
20 not a cross-referencing proximal web cache, but merely a specific
21 type of routing services. That is, DNS receives a host name from
22 the browser, not a URL as the examination incorrectly suggests. The
23 claimed process receives a destination URL for a source. A DNS
24 transmits a destination IPA to a browser. The claimed process
25 transmits a URL to a destination IPA. A DNS does not cache web
26 content data. The claimed invention as in claim 3 caches web
27 content data. Yet, the basis for the rejections is Nezem's
28 conventional use of DNS. The examination comments on page 3 are

1 misplaced. For the 1) storing, 2) storing, 3) receiving) 4) cross-
2 referencing, 5) and transmitting process steps, there is the
3 repetitive citation of Nezem and the DNS "name server", yet, DNS
4 does not perform a single one of these five claimed functions.
5

6 It is not understood how Nezem can be anticipatory when
7 Nezem's DNS service does not perform one of the claimed processes.
8 Nezem is irrelevant and teaches away from the non-DNS use by the
9 present invention. The cited references do not teach claimed
10 process steps at a proximal IPA. Allowance of the claims is
11 requested.
12

13 Respectfully Submitted

14 *Derrick Michael Reid*

15 Derrick Michael Reid

16 Derrick Michael Reid, Esq.

17 The Aerospace Corporation

18 PO Box 92957 M1/040

19 Los Angeles, Ca 90009-2957

20 Reg. No. 32,096
21
22
23
24
25
26
27

28 ///